



(19)

(11) Publication number:

58130529 A

Generated Document.

PATENT ABSTRACTS OF JAPAN(21) Application number: **57011533**(51) Int'l. Cl.: **H01L 21/302**(22) Application date: **29.01.82**

(30) Priority:

(43) Date of application publication: **04.08.83**

(84) Designated contracting states:

(71) Applicant: **HITACHI LTD**(72) Inventor: **YOKOTA YOSHIHIRO
NISHIMATSU SHIGERU
ICHIKAWA NORIO**

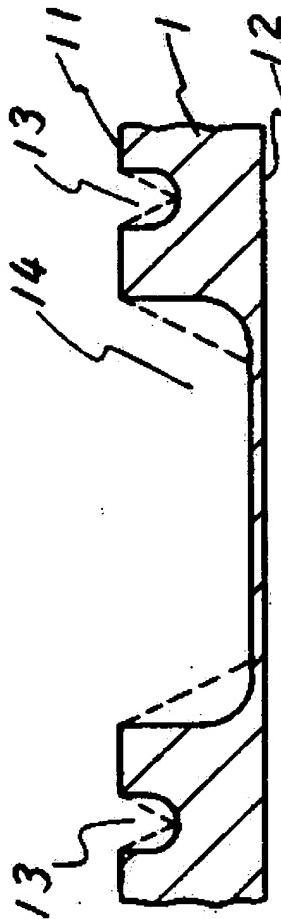
(74) Representative:

**(54) SEMICONDUCTOR
ETCHING METHOD**

(57) Abstract:

PURPOSE: To enable a deep etching having high pattern accuracy, by selectively etching a semiconductor substrate by a microwave plasma etching in an atmosphere gas over the fixed pressure without containing carbon.

CONSTITUTION: An Si substrate is prepared whereon a sensor region is formed at a fixed part of the main surface 12, and an SiO₂ film is selectively formed on the main surface 11 of this substrate. As the SiO₂ film selectively formed on the main surface 11, the part corresponded to a recess 14 and pelletizing grooves 13 is opened window. Next, a microwave plasma etching is applied to this Si substrate. In this case, a gas selected from gasses not containing carbon e.g. SF₆, NF₃, F₂, XeF₂ is used as the atmosphere gas, and the pressure of the atmosphere gas is set 5×10^{-4} Torr or more. Thereby, the Si substrate 1 for a semiconductor sensor is obtained which has a deep and high pattern accuracy recess 14 and groove 13.



COPYRIGHT: (C)1983,JPO&Japio